abcam

ab309481

Anti-TET2 antibody [EPR26694-93]

Recombinant | RabMAb | 20ul selling size

Key facts

Isotype	IgG
Host species	Rabbit
Storage buffer	pH: 7.2 - 7.4 Preservative: 0.01% Sodium azide Constituents: PBS, 40% Glycerol (glycerin, glycerine), 0.05% BSA
Form	Liquid
Clonality	Monoclonal
Immunogen	The exact immunogen used to generate this antibody is proprietary information.
Clone number	EPR26694-93
Purification technique	Affinity purification Protein A
Concentration	0.515 mg/mL The concentration of this product may be batch-dependent Batch concentration finder →

Reactivity data

WB

Tested

Species	Mouse
Dilution info	1/1000
Notes	-

Not recommended

Species	Human, Rat
Dilution info	-
Notes	-

ICC/IF

Tested

Species	Mouse
Dilution info	1/50
Notes	-

Not recommended

Species	Human, Rat
Dilution info	-
Notes	-

Flow Cyt (Intra)

Tested

Species	Mouse
Dilution info	1/5000
Notes	-

Not recommended

Species	Human, Rat
Dilution info	-
Notes	-

IHC-P

Not recommended

Species	Human
Dilution info	-
Notes	Perform heat-mediated antigen retrieval with Tris/EDTA buffer pH 9.0 before commencing with IHC staining protocol.

Species	Mouse
Dilution info	-
Notes	Perform heat-mediated antigen retrieval with Tris/EDTA buffer pH 9.0 before commencing with IHC staining protocol.

Species	Rat
Dilution info	-
Notes	Perform heat-mediated antigen retrieval with Tris/EDTA buffer pH 9.0 before commencing with IHC staining protocol.

IP

Tested

Species	Mouse
Dilution info	1/30
Notes	-

Not recommended

Species	Human, Rat
Dilution info	-
Notes	-

Target data

See full target information Tet2

Function	Dioxygenase that catalyzes the conversion of the modified genomic base 5-methylcytosine (5mC) into 5-hydroxymethylcytosine (5hmC) and plays a key role in active DNA demethylation. Has a preference for 5-hydroxymethylcytosine in CpG motifs. Also mediates subsequent conversion of 5hmC into 5-formylcytosine (5fC), and conversion of 5fC to 5-carboxylcytosine (5caC). Conversion of 5mC into 5hmC, 5fC and 5caC probably constitutes the first step in cytosine demethylation.

Methylation at the C5 position of cytosine bases is an epigenetic modification of the mammalian genome which plays an important role in transcriptional regulation. In addition to its role in DNA demethylation, also involved in the recruitment of the O-GlcNAc transferase OGT to CpG-rich transcription start sites of active genes, thereby promoting histone H2B GlcNAcylation by OGT.

Storage

Shipped at conditions	Conditional Ambient
Appropriate short-term storage duration	1-2 weeks
Appropriate short-term storage conditions	+4°C
Appropriate long-term storage conditions	-20°C
Aliquoting information	Upon delivery aliquot
Storage information	Avoid freeze / thaw cycle

Notes

Patented technology
Our RabMAb® technology is a patented hybridoma-based technology for making rabbit monoclonal antibodies. For details on our patents, please refer to RabMAb® patents.

What are the advantages of a recombinant monoclonal antibody?
This product is a recombinant monoclonal antibody, which offers several advantages including:

- High batch-to-batch consistency and reproducibility
- Improved sensitivity and specificity
- Long-term security of supply
- Animal-free batch production

For more information, read more on recombinant antibodies.

Supplementary info

This supplementary information is collated from multiple sources and compiled automatically.

Activity summary	Tet2 also known as ten-eleven translocation methylcytosine dioxygenase 2 is an enzyme involved in DNA demethylation. It has a molecular weight of approximately 224 kDa. This enzyme catalyzes the conversion of 5-methylcytosine to 5-hydroxymethylcytosine an important step in DNA demethylation processes. Tet2 expression occurs in various tissues with higher levels in hematopoietic cells.

	Its role in modification of DNA has made it a significant subject of study in epigenetic regulation.
Biological function summary	Tet2 participates in the regulation of gene expression through its impact on DNA methylation status. By promoting DNA demethylation Tet2 influences transcriptional networks that are vital for cell differentiation and development. The enzyme functions as part of a larger complex with cofactors including ascorbic acid which it requires for full enzymatic activity. Its actions affect the regulation of important processes such as self-renewal and differentiation in hematopoietic stem cells.
Pathways	The enzymatic activity of Tet2 plays a role in epigenetic pathways involved in hematopoiesis and immune function. In particular Tet2 interacts with pathways regulating chromatin structure and transcriptional control. It associates with proteins like TET1 and TET3 as they share roles in the regulation of 5-hydroxymethylcytosine levels. Through these mechanisms Tet2 contributes significantly to the maintenance of normal hematopoietic and immune cell function.
Associated diseases and disorders	Alterations in Tet2 activity have been linked to hematological malignancies such as myelodysplastic syndromes and acute myeloid leukemia. Loss of function mutations in Tet2 lead to disruptions in hematopoietic differentiation contributing to disease pathology. Tet2 mutations can affect interactions with proteins such as DNMT3A another promoter of DNA methylation which further influence the disease course. Understanding Tet2's role in these disorders may offer potential therapeutic insights.

Product promise

Tested

We have tested this species and application combination and it works. It is covered by our product promise.

Expected

We have not tested this specific species and application combination in-house, but expect it will work. It is covered by our product promise.

Predicted

This species and application combination has not been tested, but we predict it will work based on strong homology. However, this combination is not covered by our product promise.

Not recommended

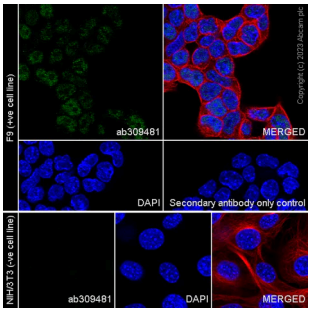
We do not recommend this combination. It is not covered by our product promise.

We are dedicated to supporting your work with high quality reagents and we are here for you every step of the way should you need us.

In the unlikely event of one of our products not working as expected, you are covered by our product promise.

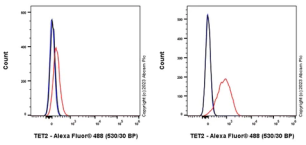
Full details and terms and conditions can be found here:
Terms & Conditions.

5 product images



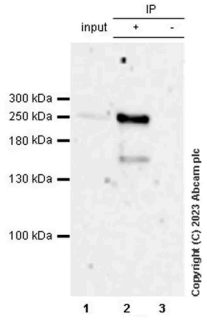
Immunocytochemistry/ Immunofluorescence - Anti-TET2 antibody [EPR26694-93] (ab309481)

Immunofluorescent analysis of 4% Paraformaldehyde-fixed, 0.1% TritonX-100 permeabilized F9 (mouse embryonal carcinoma epithelial cell) cells labelling TET2 with ab309481 at 1/50 (10.3 ug/ml) dilution, followed by ab150081 Goat Anti-Rabbit IgG H&L (Alexa Fluor® 488) preadsorbed antibody at 1/1000 2ug/ml dilution (Green). Confocal image showing nuclear staining in F9 cell line, and no staining in NIH/3T3 cell line.Negative control: NIH/3T3.Image was taken with a confocal microscope(Leica-Microsystems, TCS SP8). is observed. ab195889 Anti-alpha Tubulin mouse monoclonal antibody - Microtubule Marker (Alexa Fluor® 594) was used to counterstain tubulin at 1/200 2.5ug/ml dilution (Red). The Nuclear counterstain was DAPI (Blue). Secondary antibody only control: Secondary antibody is ab150081 Goat Anti-Rabbit IgG H&L (Alexa Fluor® 488) preadsorbed at 1/1000 2ug/ml dilution.



Flow Cytometry (Intracellular) - Anti-TET2 antibody [EPR26694-93] (ab309481)

Flow cytometric analysis of 4% paraformaldehyde fixed 90% methanol permeabilized NIH/3T3 (mouse embryonic fibroblast, Left) / F9 (mouse embryonal carcinoma epithelial cell, Right) cells labelling TET2 with ab309481 at 1/5000 dilution (0.01 ug)/Red (Red) compared with a Rabbit monoclonal IgG (ab172730) (Black) isotype control and an unlabelled control (cells without incubation with primary antibody and secondary antibody) (Blue). A Goat Anti-Rabbit IgG (Alexa Fluor® 488, ab150081) at 1/5000 dilution was used as the secondary antibody. Negative control: NIH/3T3 (CST Datasheet).



Immunoprecipitation - Anti-TET2 antibody [EPR26694-93] (ab309481)

TET2 was immunoprecipitated from 0.35 mg F9 (mouse embryonal carcinoma epithelial cell) whole cell lysate with ab309481 at 1/30 dilution (2ug in 0.35mg lysates). Western blot was performed on the immunoprecipitate using ab309481 at 1/1000 dilution. VeriBlot for IP secondary antibody(HRP)(ab131366) was used at 1/5000 dilution. Lane 1: F9 (mouse embryonal carcinoma epithelial cell) whole cell lysate Lane 2: ab309481 IP in F9 (mouse embryonal carcinoma epithelial cell) whole cell lysate Lane 3:Rabbit monoclonal IgG (ab172730) instead of ab309481 in F9 whole cell lysate Blocking and dilution buffer and concentration: 5% NFDM/TBST. Exposure time: 180 seconds
All lanes:
Immunoprecipitation - Anti-TET2 antibody [EPR26694-93] (ab309481) at 1/30 dilution

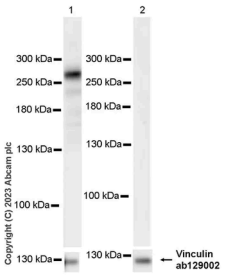
All lanes:
F9 (mouse embryonal carcinoma epithelial cell) whole cell lysate

Secondary

All lanes:
Immunoprecipitation - VeriBlot for IP Detection Reagent (HRP) (ab131366) at 1/5000 dilution

Observed band size: 260 kDa

Exposure time: 180s



Western blot - Anti-TET2 antibody [EPR26694-93] (ab309481)

TET2 Western blot staining using rabbit Anti-TET2 antibody

Blocking and diluting buffer and concentration: 5% NFDM/TBST Negative control: NIH/3T3. The expression profile/ molecular weight observed is consistent with what has been described in the literature (PMID: 34667079). Lysates were freshly made and used for Western blotting immediately to minimize protein degradation. In Western blot, anti- Vinculin antibody (ab129002) loading control staining at 1/10000 dilution. Exposure time: 180 seconds
All lanes:
Western blot - Anti-TET2 antibody [EPR26694-93] (ab309481) at 1/1000 dilution

Lane 1:
F9 (mouse embryonal carcinoma epithelial cell) whole cell lysate at 20 µg

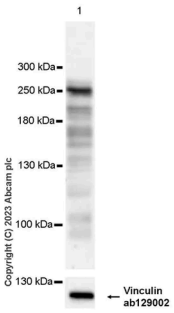
Lane 2:
NIH/3T3 (mouse embryonic fibroblast) whole cell lysate at 20 µg

Secondary

All lanes:
Western blot - Goat Anti-Rabbit IgG H&L (HRP) (ab97051) at 1/20000 dilution

Observed band size: 260 kDa

Exposure time: 180s



Western blot - Anti-TET2 antibody [EPR26694-93] (ab309481)

TET2 Western blot staining of RAW264.7 (mouse Abelson murine leukemia virus-induced tumor macrophage) whole cell lysate using rabbit Anti-TET2 antibody

Blocking and diluting buffer and concentration: 5% NFDM/TBST The expression profile/ molecular weight observed is consistent with what has been described in the literature (PMID: 34667079). Lysates were freshly made and used for Western blotting immediately to minimize protein degradation. In Western blot, anti- Vinculin antibody (ab129002) loading control staining at 1/10000 dilution. Exposure time: 180 seconds
All lanes:
Western blot - Anti-TET2 antibody [EPR26694-93] (ab309481) at 1/1000 dilution

All lanes:
RAW264.7 (mouse Abelson murine leukemia virus-induced tumor macrophage) whole cell lysate at 20 µg

Secondary

All lanes:
Western blot - Goat Anti-Rabbit IgG H&L (HRP) (ab97051) at 1/20000 dilution

Observed band size: 260 kDa

Exposure time: 180s

Please note: All products are 'FOR RESEARCH USE ONLY. NOT FOR USE IN DIAGNOSTIC OR THERAPEUTIC PROCEDURES'.